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PATENT  
CR00511P

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Markus Muck et al. Group Art Unit:  
Application No.: Examiner:  
Date Filed: Batch No.:  
Title: VITERBI DECODER, METHOD AND UNIT THEREFOR



CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO:  
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Charles Owens  
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DATE

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner For Patents  
Washington, D.C. 20231

SIR:

In accordance with 37 C.F.R. §1.56 and in compliance with 37 C.F.R. §§1.97 and 1.98, the references listed on attached Form PTO/SB/08 and/or subsequently identified herein, are being submitted herewith for consideration by the United States Patent and Trademark Office.

I. COPIES

- a. ☒ A legible copy of (i) each U.S. and foreign patents; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed, is included herewith.
- b. ☐ Any patents, publications or other information which are listed on PTO/SB/08 which are not enclosed herewith were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. §120:

U.S. Serial Number

U.S. Filing Date

II. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

- a. ☒ Except as may be indicated below in (b) of this section, all of the patents, publications or other information are in the English language (concise explanation not required).
- b. ☒ A concise explanation of the relevance of all patents, publications or other information listed that is not in the English language is as follows:  
Please see attached sheet entitled "Concise explanation of relevance of FR 2769434."
- c. ☐ The following additional information is provided for the Examiner's consideration:

III. ☐ CROSS REFERENCE TO RELATED APPLICATION(S)

The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this (these) applications to the Examiner's attention, Applicant(s) does(do) not waive the confidentiality provisions of 35 U.S.C. §122.

Serial No.

Filing Date

Art Unit

FEES

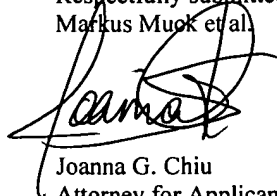
- IV. ☒ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(b): (check one box)
- a. ☐ within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d) (37 C.F.R. §1.97(b)(1)). No fee or statement is required.
  - b. ☐ within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. §1.97(b)(2)). No fee or statement is required.
  - c. ☒ before the mailing date of a first Office Action on the merits (37 C.F.R. §1.97(b)(3)). No fee or statement is required.
  - d. ☐ before the mailing date of a first Office Action after the filing of a request for continued examination under § 1.114 (37 C.F.R. § 1.97(b)(4)). No fee or statement is required.
- V. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(c): (check one box)  
before the mailing date of any of a Final Office Action under 37 C.F.R. §1.113, a Notice of Allowance under 37 C.F.R. §1.311, or an action that otherwise closes prosecution in the application (See 37 C.F.R. §1.97(c)).
- a. ☐ No statement; therefore, charge deposit account 13-4773 the fee set forth in 37 C.F.R. §1.17(p).
  - b. ☐ See the statement below. No fee is required.
- VI. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(d):  
on or before payment of the issue fee and is accompanied by the following:
- 1) a statement under 37 C.F.R. §1.97(e) as provided below; and
  - 2) charge deposit account 13-4773 the petition fee set forth in §1.17(p).
- VII. ☐ STATEMENT UNDER 37 C.F.R. §1.97(e) (check only one box, if applicable)  
The undersigned hereby states that
- a. ☐ each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of IDS; or
  - b. ☐ no item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application, and to knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement, or
  - c. ☐ some of the items of information contained in the IDS were cited in a communication from a foreign Patent Office. As to this information, the undersigned states that each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby states that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application or, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement.
- VIII. PAYMENT OF FEES
- ☐ A check in the amount of \_\_\_\_\_ is enclosed for the above-identified fee(s).
  - ☐ Please charge Deposit Account No.13-4773 in the amount of \$180.00 for the above-indicated fee(s).
  - ☒ If Applicant has overlooked any additional fees, or if any overpayment has been made, the Commissioner is hereby authorized to credit or debit Deposit 13-4773.
  - ☐ Two Copies of this paper are attached for Deposit Account charges and debits.

It is Applicant(s)' opinion that the claims presently on file patently distinguish the present invention from each of these references. The above references are being cited only in the interests of candor and without any admission that they constitute statutory prior art or contain matter which

anticipates the invention or which would render the same obvious, either singly or in a combination, to a person of ordinary skill in the art.

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 13-4773.

Respectfully submitted,  
Markus Muok et al.



Joanna G. Chiu  
Attorney for Applicant(s)  
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Tel. 512.996.6839

MOTOROLA, INC.  
Customer Number 23125

Enclosures: ☒ PTO/SB/08  
☒ References  
☒ Foreign Search Report  
☐ Other:

**Concise explanation of relevance of FR 2769434:**

*Abstract Translation:*

The invention relates to a Viterbi decoding method which includes calculating a plurality of branch metric values from received data; calculating a plurality of route metric values from a plurality of previous route metric values and the branch metric values; and decoding the original data by using the route metric values. The calculation of the plurality of route metric values includes producing primary route metric values using an ACS algorithm from the branch metric values and the previous route metric values; selecting the smallest of the previous route metric values, to produce a minimum route metric value; and subtracting the minimum route metric value from the primary route metric values, to produce a plurality of current route metric values. The invention also relates to a Viterbi decoder.

*Translation of page 9, line 14-27 (the relevance cited in the foreign search report):*

According to the present invention, however, the distance values are not used as branch metric values, but are modified. Especially, it is the minimum value that is chosen from the distance values, so as to subtract the minimum distance value from the distance values, respectively, to produce the branch metric values. In the example cited above, it is the minimum distance value of 3 that is chosen from the distance values (6, 3, 11, 8), then it is subtracted from the distance values (6, 3, 11, 8) to produce 3, 0, 8, 5 as branch metric values BM00, BM01, BM10, BM11. Here, the sum of the branch metric values is 16, that is to say that the sum is less than 12 to (*direct translation*) the sum of the distance values.

☐

3c781 U.S. PTO  
10/023543  
12/17/01

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	
				Filing Date	
				First Named Inventor	
				Group Art Unit	
				Examiner Name	
Sheet	1	of	2	Attorney Docket Number	CR00511P

[illegible][illegible]

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation, if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English Language Translation is attached.

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<i>Complete if Known</i>	
				Application Number	
				Filing Date	
				First Named Inventor	
				Group Art Unit	
				Examiner Name	
Sheet	2	of	2	Attorney Docket Number	CR00511P

[illegible]

Examiner Signature		Date Considered	
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<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.